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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,911	02/28/2000	REIMAR FINCK	3245-704PUS	7288

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[REDACTED] EXAMINER

COMBS, JANELL A

ART UNIT	PAPER NUMBER
1742	14

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Offic Action Summary	Application N .	Applicant(s)	
	09/423,911	FINCK ET AL.	
	Examiner	Art Unit	
	Janelle Combs-Morillo	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 09 September 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 5-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 5-8 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____.

2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "noncritical temperature range from 260°C to 280°C" appears in claims 5 and 7 and in the present specification at least on page 4 lines 4-5 and page 4 lines 23-24. It is unclear to the examiner the exact meaning of this term. Applicant states "the temperature range is critical only for the purpose of comparison with the temperature range of Daly, et al". However, the said temperature range cannot be critical in some cases and non-critical in others. The examiner suggests referring to an optional temperature range, or the like.

Appropriate correction/explanation is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daly et al.

Daly et al teaches a process for producing aluminum strip comprising the steps of: hot rolling an aluminum strip in a single stand reversible hot mill (column 3 lines 23-24) while minimizing recrystallization (column 3 lines 36-37), coiling, and annealing in a furnace at 315-399°C (column 3 lines 35, 49-50), which overlaps the presently claimed annealing temperature range. The hot roll exit temperature is 249-405°C, which overlaps the presently claimed hot roll exit temperature range. Daly teaches “all hot line recrystallization at gauges below 1.90 cm (0.75 inch) or 1.27 cm (0.5 inch) is avoided. This favors cube texture development in the metal when the hot line exit material later recrystallizes, such as during batch anneal or continuous anneal” (column 3 lines 42-46). The examiner points out that the final hot rolling thickness ~0.2cm (example) or 0.13-0.38 cm (column 6 line 2). Therefore, Daly clearly teaches avoiding recrystallization in at least the last hot rolling pass.

Daly et al does not teach a roughing stage to form a strip. However, the examiner asserts that the presently claimed roughing step is included in the step as taught by Daly et al of hot rolling an aluminum strip in a single stand reversible hot mill (column 3 lines 23-24). Daly et al does not specify that the last three hot rolling passes are carried out without recrystallization. However, because Daly et al teaches against recrystallization at gauges below 1.9 cm or 1.27 cm (column 3 lines 42-46), it would have been within the level of one of ordinary skill in the art to carry out three hot rolling passes to a final gauge of 0.13-0.38 cm (column 6 line 2), without recrystallization.

Because Daly teaches a process of hot rolling aluminum into a strip with a finishing temperature that overlaps the presently claimed range, wherein hot rolling at gauges below 1.9 cm or 1.27 cm is performed without recrystallization (column 3 lines 42-46), followed by coiling

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said strip, and annealing at temperatures that overlap the presently claimed range, Daly et al is held to create a *prima facie* case of obviousness of the presently claimed invention.

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daly et al. in view of JP 07-041896A (JP'896).

As stated above, Daly et al teaches a process for producing sheet for can stock by hot rolling and heat treating substantially as presently claimed. Daly et al specifies that “the hot mill schedule is such that recrystallization in the hot mill is minimized or reduced” (Daly column 3 lines 36-37). Daly teaches the hot roll exit temperature is 249-405°C, which overlaps the presently claimed hot roll exit temperature range (260-280°C).

JP'896 teaches that it is important to warm roll $\geq 30\%$ in a temperature range of 100-350°C after hot rolling, because an Al-Mg type alloy sheet excellent in deep drawability can be produced (wherein said working performed on a Al-Mg alloy creates a particular crystallographic texture that is excellent in formability, see abstract). Because JP'896 teaches warm rolling $\geq 30\%$ reduction, it is held to be within the disclosure of JP'896 to carry out three rolling passes are without recrystallization (instant claim 6).

It would have been obvious to one of ordinary skill in the art to perform the working and heat treating process of Al-Mg strip used for can stock taught by Daly, wherein the strip has a “hot” rolling exit temperature that falls within the presently claimed temperature range because Daly teaches a broadly overlapping temperature range of 249-405°C, and because JP'896 teaches that “hot” rolling in the range of 100-350°C (warm rolling is defined as below the recrystallization temperature, see discussion below) improves deep drawability and formability.

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6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daly et al in view of Windhaus et al (US 5,548,882 A).

Daly et al teaches an apparatus for hot rolling aluminum comprising: a means for reversing rough rolling (Fig. 1B), a means for finish rolling, said means including a four high reversing roll stand with winding devices on each side (Fig. 1D), and a heat treating means (Fig. 1C).

Daly et al does not teach said heat treating means is a pusher type furnace with a pallet transport system or a means for transferring said coil to a furnace.

Windhaus teaches a means for transferring the coiled strip to the heat treating means, including a pusher-type pallet system (column 1 lines 48-51) which transports the coils through the furnace. Additionally, Windhaus teaches means for transferring the coiled slab bundles to the pallet car (column 2 lines 20-23).

It would have been obvious to use the pusher type pallet system as taught by Windhaus, in the strip making plant taught by Daly, because Windhaus teaches that said transporting pallet system reduces the risk of deformation of the bundles by the transporting means (column 1 lines 58-60).

Response to Arguments/Amendment

7. In the amendment filed on September 9, 2002 applicant amended claims 5 and 7.

The argument that “as a final step” is not indefinite (arguments page 4) has been found persuasive. The argument that “non-critical temperature range” is not indefinite has not been found persuasive. Applicant states “the temperature range is critical only for the purpose of

comparison with the temperature range of Daly, et al". However, the said temperature range cannot be critical in some cases and non-critical in others. The examiner suggests referring to an optional temperature range, or the like.

The argument that Daly does not teach hot rolling without recrystallizing in the last stage or last 3 stages has not been found persuasive (arguments page 5-6). As stated above, Daly teaches hot rolling at gauges below 1.9 cm or 1.27 cm is performed without recrystallization (column 3 lines 42-46).

Applicant's arguments with respect to claims 7 and 8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (703) 308-4757. The examiner can normally be reached on 7:30 am- 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7719 for regular communications and (703) 305-7719 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jcm *JM*
November 20, 2002

G. Wyszomierski
GEORGE WYSZOMIERSKI
PRIMARY EXAMINER